

**PENINGKATAN ANGKUTAN SEDIMEN AKIBAT TAMBANG C SUNGAI MAROS  
(CAST STUDY:DUSUN TOMBOLO)**

Increased Sediment Transport due to Mining in The Maros River (Cast Study of Tombolo Hamlet)

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**ABSTRAK**

Aktivitas galian tambang C berpotensi memengaruhi karakteristik aliran dan angkutan sedimen sungai. Sungai maros di Dusun Tombolo merupakan salah satu sungai yang mengalami tekanan akibat aktivitas penambangan material. Penelitian ini bertujuan untuk menganalisis karakteristik angkutan sedimen melayang dan sedimen dasar serta pengaruh galian tambang C terhadap angkutan sedimen di Sungai Maros dusun Tombolo. Metode penelitian meliputi pengukuran lapangan dan analisis laboratorium, dengan data berupa penampang Sungai, kecepatan aliran, debit, dan sampel sedimen. Angkutan sedimen melayang dihitung menggunakan metode sesaat, sedangkan angkutan sedimen dasar dianalisis menggunakan metode Einstein, Meyer Peter muller, dan Duboys. Hasil penelitian menunjukkan bahwa angkutan sedimen melayang bersifat bervariasi dan dipengaruhi oleh kecepatan aliran. Perhitungan sedimen dasar menunjukkan perbedaan antar metode, di mana metode Duboys menghasilkan nilai angkutan sedimen yang lebih besar dibandingkan metode lainnya. Kondisi aliran sungai tergolong turbulen dengan nilai tegangan geser aliran melebihi tegangan kritis sedimen, yang mengindikasikan terjadinya pergerakan sedimen dasar. Hasil ini menunjukkan bahwa aktivitas galian tambang C berpengaruh terhadap karakteristik angkutan sedimen di Sungai maros Dusun Tombolo.

**Kata Kunci:** Angkutan Sedimen, Galian Tambang C, Sedimen Melayang, Sedimen Dasar, Sungai Maros.

**ABSTRACT**

*Sand and gravel mining activities may alter river flow characteristics and sediment transport processes. The Maros River in tombolo Hamlet is one of the rivers affected by intensive material extraction. This study aims to analyze the characteristics of suspended load and bed-load sediment transport and to evaluate the impact of sand and gravel mining activities on sediment transport in the Maros river, Tombolo Hamlet. The research employed field measurements and laboratory analyses river cross section geometry, flow velocity, discharge, and sediment sampling. Suspended sediment transport was calculated using the instantaneous method, while bed-load sediment transport was analyzed using the Einstein, Meyer Peter muller, and Duboys methods. The results indicate that suspended sediment transport varies and is influenced by flow velocity. Bed-load transport estimates differ among the applied methods, with the Duboys method producing higher sediment transport rates than the other methods. The flow conditions are classified as turbulent, and the calculated bed shear stress exceeds the critical shear stress, indicating active bed sediment movement. These findings demonstrate that sand and gravel mining activities influence sediment transport characteristics in the Maros River, Tombolo Hamlet.*

**Keyword:** sediment transport, sand and gravel mining, suspended load, bed load, Maros river.